

CLAIMS

1. A pogo probe card for probing a test device comprising:

- 5 (a) a laminate board including a top dielectric layer, a bottom dielectric layer and a set of auxiliary guard traces interposed between said top dielectric layer and said bottom dielectric layer, said board forming an opening and having a top major surface and a bottom major surface;
- 10 (b) a plurality of probing devices for probing a plurality of probing sites on a test device, each probing device including an elongate probing needle and an electrical connection point electrically connected to said probing needle, said probing devices being mounted to said top major surface in radial arrangement about said opening and extending below said opening, so that said probing needles terminate in a pattern suitable for probing said sites;
- 15 (c) a plurality of pogo pin receptive pad sets;
- 20 (d) a set of first conductors for electrically connecting each pad set to a said auxiliary guard trace; and
- 25 (e) a second conductor for electrically connecting a said electrical connection point to a said pad set.
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2. The pogo probe card of claim 1 wherein said second conductor is in the form of traces on the first surface of said laminate board.

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3. The pogo probe card of claim 1 wherein said second conductor is in the form of a coaxial cable center conductor.

5 4. The pogo probe card of claim 3 wherein each said pad set includes a signal pad and a guard pad and said coaxial cable center conductor connects said signal pad to said electrical connection point and is encircled by a peripheral conductor that is electrically
10 connected to a said guard line pad.

5. The pogo probe card of claim 1 wherein said first conductors are in the form of plated vias.

15 6. The pogo probe card of claim 1 wherein said first conductors are in the form of plated channels.

7. The pogo probe card of claim 1 wherein a trench is formed between each neighboring pair of said
20 pogo pin receptive pad sets.

8. The pogo probe card of claim 1 wherein said second dielectric layer has a first and a second major surface and wherein said first major surface is
25 joined to said conductive layer and said probe card further includes a chuck guard conductive layer substantially covering said second major surface of said second dielectric layer.

30 9. A probing device for probing a probing site on a test device, comprising:

 a dielectric substrate having first and second sides, an elongate conductive path on said first side and a replaceable elongate probing needle connected to one
35 end of said elongate conductive path so as to extend in a cantilevered manner beyond said substrate.

10. The probing device of claim 9 including an adjustment mechanism for adjusting the position of said probing terminus of said probing needle relative to the position of the dielectric substrate.

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11. The probing device of claim 10 wherein said adjustment mechanism is a set of set screws.

12. A method for custom assembling a pogo probe card for testing a predetermined set of probing sights resident on a predetermined integrated circuit type, to fully utilize the number of pogo pin receptive pad sets available, comprising:

15 determining the number, location and relative sensitivity

providing a pogo probe card workpiece, including:

- 20 (a) a laminate board including a first dielectric layer, a second dielectric layer and a conductive layer interposed between said first dielectric layer and said second dielectric layer, said board forming an opening and having a first and a second major surface;
- 25 (b) a plurality of probing devices for probing a plurality of probing sites on a test device, each probing device including an elongate probing needle and an electrical connection arm electrically connected to
- 30 the probing needle, said probing devices being mounted to the first major surface in radial arrangement about said opening, extend into said opening and traverse a plane defined by the second major surface,
- 35 so that said probing needles terminate in a pattern suitable for probing said sites;

- 5 (c) a plurality of pogo pin receptive pad sets
each pad set including a force line pad, a
sense line pad and a guard line pad that
surrounds both said sense line pad and
said force line pad; and
- (d) a set of first conductors for electrically
connecting each guard line pad to said
conductive layer; and

10 electrically connecting both the sense line pad
and the force line pad of a first pogo pin receptive pad
set to a first electrical connection arm;

15 electrically connecting only the force line pad
of a first pogo pin receptive pad set to an electrical
connection arm adapted to be connected to a first test
site; and

electrically connecting only the sense line pad
of a second pogo pin receptive pad set to an electrical
connection arm that is adapted to be connected to the
first test site.

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13. The method of claim 12 wherein both said
sense line pad of said first pogo pin receptive pad and
said force line pad of said second pogo pin receptive
area are electrically connected to the same electrical
25 connection arm.

14. The method of claim 12 wherein said sense
line of said first pogo pin receptive pad is electrically
connected to a second electrical connection arm, which is
30 adapted to be connected to the first site and said force
line pad of said second pogo pin receptive pad is elec-
trically connected to a third said electrical connection
arm, which is adapted to be connected to the first site.